

## **Remarks**

### **1. Summary of Office Action**

In the final office action mailed March 27, 2006, the Examiner objected to use of the word "function" instead of "step" in claims 10-13, and the Examiner objected to claims 22, 26, and 27 for using the term "facilities" instead of the term "central office. In addition, the Examiner maintained rejections of (i) claims 1-3, 5, 7-8, 14-21, 28-32, and 34 under 35 U.S.C. § 102(e) as being allegedly anticipated by WO/03 024071 (Kim), (ii) claims 10-13 under 35 U.S.C. § 103 as being allegedly obvious over a combination of Kim and what the Examiner characterized as "admitted prior art," and (iii) claims 22-27 under 35 U.S.C. § 103 as being allegedly obvious over a combination of Kim and U.S. Patent Application Pub. No. 2003/0035525 (Wu). Further, the Examiner rejected claims 4 and 6 under 35 U.S.C. § 103 as being allegedly obvious over a combination of Kim and U.S. Patent No. 6,775,556 (Ghoi).

### **2. Status of the Claims**

Applicant has cancelled claims 11-13. Further, Applicant has corrected clear typographical errors in claims 10, 22, 26, and 27 in response to the Examiner's objections. Now pending are claims 1-8, 10, 14-32, and 34, of which claims 1, 22, 28, and 31 are independent, and the remainder are dependent.

### **3. Response to Claim Objections**

Applicant has amended claim 10 to refer to "step" instead of "function," thus overcoming the Examiner's objection to this claim. Applicant has amended claims 22, 26, and 27 to refer to "central office" instead of "facilities," thus overcoming the Examiner's objections to these claims.

#### 4. Response to Claim Rejections

##### a. Claims 1-3, 5, 7-8, 14-21, 28-32, and 34

The Examiner rejected claims 1-3, 5, 7-8, 14-21, 28-32, and 34 as being allegedly anticipated by Kim. Of these claims, claims 1, 28, and 31 are independent.

Claim 1 recites that local loop telephone lines normally extend between multiple customer premises and a telephone company switch at a telephone company central office, where the telephone company switch provides connectivity with a transport network. Claim 1 then recites the step of interfacing the local loop telephone lines with wireless transceivers *at that telephone company central office* between the telephone company switch and the customer premises, so that the wireless transceivers can wirelessly connect the local loop telephone lines to the transport network via a wireless access network. The claim thus makes clear that this interfacing function occurs at the telephone company central office that includes the telephone company switch, and that the interfacing occurs at a point between the telephone company switch and the customer premises.

Kim teaches a system 100 that includes (i) wireless communication modules 10a-10n, (ii) connectors 30 for wired telephone lines, and (iii) logic 21, 23, 24, 25 interfacing the wireless communication modules with the wired telephone lines. With Kim's arrangement, a wired telephone can place a PSTN call via the interface system 21, 23, 24, 25, over a wireless link to a radio access network (RAN) 300 that connects with the PSTN. Likewise, Kim allows a call from the PSTN to be set up by the RAN 300 to a wireless communication module, with the interface system 21, 23, 24, 25 in turn extending the call via a wired telephone line to a wired telephone. Kim explains that the interface arrangement is usable where wired PSTN connectivity does not exist – such as in a campsite or in developing countries. (See Kim's closing paragraphs.)

As Applicant explained in the previous response, claim 1 patentably distinguishes over Kim at a minimum because Kim fails to teach providing the claimed interface arrangement at a telephone company central office that includes a telephone company switch, where the local loop telephones normally extend to the telephone company switch, and where the telephone company switch provides connectivity to the transport network.

In rejecting claim 1, the Examiner asserted that Kim teaches carrying out the interfacing function at a telephone company central office, citing Figure 1 of Kim in support of this proposition. Further, in responding to Applicant's remarks, the Examiner then reiterated this argument and specifically asserted that the term "telephone company central office" in Applicant's claim is broad enough to read on Kim's element 100. In particular the Examiner concluded "Kim's element 100 is part of a telephone company and is performing as a central office because communications are controlled and routed through element 100." Applicant submits that this reasoning by the Examiner is in error and that the claim rejection remains improper.

By arguing that Kim's interface system "performs as a central office" in that it connects/routes calls, the Examiner has improperly disregarded some of Applicant's claim language. In particular, Applicant's claim recites that the telephone company central office includes a telephone company switch to which the local loop telephone lines normally extend and that provides connectivity with the transport network, and Applicant's claim recites the function of interfacing the local loop telephone lines with wireless transceivers between the telephone company switch and the customer premises. Kim fails to teach such an arrangement, and the Examiner has not pointed to any teaching in Kim of (i) a telephone company central office including a telephone company switch to which local loop telephone lines normally extend

and that provides connectivity with the transport network, or (ii) interfacing the local loop telephone lines with wireless transceivers between the telephone company switch and the customer premises.

Kim's interface system provides telephone connectivity, but that does not mean that Kim's interface system is provided at a telephone company central office of the type defined in Applicant's claims, where the telephone company central office includes the telephone company switch to which the local loop telephone lines normally extend and that provides connectivity with the transport network. Kim does not expressly teach providing Kim's interface system at such a telephone company central office, and Kim does not inherently teach doing so, because doing so does not necessarily follow from any disclosure in Kim.

Indeed, a plain reading of Kim makes clear that Kim's interface system is intended for use specifically where no such transport network connectivity exists already, such as in a campsite or developing country. Thus, it would be illogical to conclude that Kim teaches providing its interface system in a telephone company central office including a telephone company switch to which local loop telephone lines normally extend and that provides connectivity with a transport network. Given Kim's clear disclosure, there would be no need for Kim's invention in a place where such PTSN connectivity existed already.

Kim is equally deficient with respect to independent claims 28 and 34, both of which also expressly recite that the claimed interface arrangement is provided at a telephone company central office that includes a switch operable to provide connectivity with the transport network. As with claim 1, Kim does not teach providing the claimed interface arrangement at a telephone company central office that includes a switch operable to provide connectivity with the transport network. In particular, as with claim 1, it would be illogical to conclude that Kim's interface

system is provided at such a telephone company central office, since the existence of the telephone company switch at the telephone company central office would make Kim's invention (as described by Kim) completely unnecessary.

Because Kim fails to teach (expressly or inherently) the invention recited in independent claims 1, 28, and 34, Kim fails to anticipate these claims. Further, for at least the same reason, Kim fails to anticipate dependent claims 2-3, 5, 7-8, 14-21, and 29-32. Accordingly, Applicant submits that claims 1-3, 5, 7-8, 14-21, 28-32, and 34 are allowable.

**b. Claims 4 and 6**

The Examiner rejected claims 4 and 6 as being allegedly obvious over Kim in view of Ghoi. Applicant submits that these claims are allowable for at least the reason that they depend from an allowable claim.

Further, the Examiner has not established that Ghoi makes up for the above-discussed deficiency of Kim. Thus, the Examiner has not made out the requisite *prima facie* case of obviousness of claims 4 and 6. Accordingly, Applicant submits that claims 4 and 6 are allowable.

**c. Claim 10**

The Examiner rejected claim 10 as being allegedly obvious over a combination of Kim and what the Examiner characterized as "admitted prior art" – namely, page 3, lines 18-23 of Applicant's specification. In so rejecting the claims, the Examiner appears to have asserted that Applicant somehow admitted that "the interfacing function" of claim 10 was known in the prior art to take place between a subscriber line interface circuit and customer premises:

Applicant's admitted prior art discloses wherein each local loop telephone line is operatively linked with a respective subscriber line interface circuit (Fig. 1), the method further comprising: carrying out the interfacing function, with respect to a given local loop telephone line, at a point between (i) the subscriber line interface

circuit with which the given local loop telephone line is operatively linked and (ii) the customer premises to which the given local loop telephone line extends (Fig 1; Description of Related Art: page 3, lines 18-23).

See Final Office Action, at page 13, first paragraph. However, as Applicant pointed out in the last response, Applicant did not make such an admission.

The discussion at page 3, lines 18-23, of Applicant's specification relates simply to the known concept of subscriber line interface circuits (SLICs), to which a telephone company ordinarily tie each telephone line. That discussion in no way suggests that it was known in the prior art to provide "the interfacing function" of claim 10 at a place between a SLIC and the associated customer premises. Thus, the "admitted prior art" that forms a core component of the Examiner's rejection of claim 10, does not exist. As a result, the Examiner's rejection of claim 10 is improper and should be withdrawn.

The Examiner has admitted that Kim does not teach the functionality of claim 10. (See the final office action, at page 12). Further, the Examiner has not pointed to any objective evidence in the art that suggests the functionality of claim 10 or makes up for the deficiency of Kim. At a minimum, the Examiner has not pointed to any objective evidence in the art that suggests carrying out the interfacing step of claim 1 at a point between the SLIC and the customer premises, as recited in claim 10.

Furthermore, claim 10 depends from claim 1, which is allowable for the reasons discussed above. Thus, Applicant submits that claim 10 is allowable for at least the reason that it depends from an allowable claim.

**d. Claims 22-27**

The Examiner next rejected claims 22-27 on grounds of alleged obviousness over a combination of Kim and Wu. Each of these claims depends from claim 1. Thus, Applicant

submits that these claims are allowable for at least the reason that they depend from an allowable claim.

Still further, as Applicant explained in the previous response, Kim teaches away from Applicant's invention, thus precluding *prima facie* obviousness. In particular, Kim teaches that Kim's interfacing function is provided at a place where no existing PSTN connectivity exists, such as at a campsite or in a developing country. As explained above, Kim thus teaches away from providing the interface function in a telephone company central office, where local loop telephone lines normally extend to a telephone company switch that provides connectivity with the transport network. A person reading Kim would thus be swayed away from achieving Applicant's claimed invention. For this additional reason, Applicant submits that claim 10 is allowable.

## **5. Conclusion**

For the foregoing reasons, Applicant submits that all of the pending claims 1-8, 10, 14-32, and 34 are in condition for allowance. Thus, Applicant respectfully requests favorable reconsideration and allowance.

Should the Examiner wish to discuss any aspect of this case, the Examiner is invited to call the undersigned at (312) 913-2141.

Respectfully submitted,

**McDONNELL BOEHNEN  
HULBERT & BERGHOF LLP**

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By: 

Lawrence H. Aaronson  
Reg. No. 35,818